

**Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services**

**STATEMENT OF BASIS**

**CARBO Ceramics, Inc.  
CARBO Ceramics - New Iberia Facility  
New Iberia, Iberia Parish, Louisiana  
Agency Interest Number: 5051  
Activity Number: PER20060001  
Proposed Permit Number: 1260-00027-V1**

**I. APPLICANT**

**Company:**

CARBO Ceramics, Inc.  
4810 Industrial Dr.  
New Iberia, Louisiana 70560-8145

**Facility:**

CARBO Ceramics - New Iberia Facility  
4810 Industrial Dr.  
New Iberia, Iberia Parish, Louisiana  
Latitude: 30° 2' 50.7", Longitude 91° 52' 37.2"

**II. FACILITY AND CURRENT PERMIT STATUS**

CARBO Ceramics, Inc. is the owner and operator of the New Iberia facility, an existing ceramic manufacturing plant. The New Iberia facility began operation in 1978 under the name Carborundum. The New Iberia Carborundum facility was purchased in 1987 and the name was changed to CARBO Ceramics, Inc. The New Iberia facility currently operates under Permit No. 1260-00027-V0, issued May 14, 2002.

CARBO Ceramics - New Iberia Facility is a designated Part 70 source. The facility currently operates under Permit No. 1260-00027-V0 issued May 14, 2008, summarized below:

Permit No.	Description	Date Issued
1260-00027-V0	NI78-01 Rotary Gas Dryer Dust Collector Stack NI78-02 Unsintered Dust Collector Vent NI82-12 Kiln Dust Collector Stack NI82-15 Sintered Dust Collector Stack NI84-16 Tank T-7 Bin Vent NI85-17 Truck Loadout Fugitives (Gravity Pour) NI81-07 Rotary Dryer Dust Collector Vent	05/14/2008

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Permit No.	Description	Date Issued
	NI81-09 Unsintered Dust Collector Vent NI81-12 Kiln Dust Collector Stack NI81-13 Truck Loadout Fugitives (Gravity Pour) NI82-10 Sintered Dust Collector Vent NI85-18 Truck Loadout Fugitives (Live Pour) NI89-20 Fugitive Kiln Dust NI84-21 Ball Mill Vent NI83-12 Kiln Dust Collector Stack	

### III. PROPOSED PROJECT/PERMIT INFORMATION

#### Application

A permit application and Emission Inventory Questionnaire were submitted by CARBO Ceramics, Inc. on November 14, 2006 requesting a renewal to the Part 70 operating permit. Revised applications dated May 24, August 15, and December 28, 2007, were also received. Additional information dated September 11, 2007, February 13, March 4, and March 19, 2008, were also received.

#### Project

CARBO Ceramics, Inc. operates two (2) proppant plants at the New Iberia facility which produces ceramic media and ceramic proppant through the sintering of bauxite and clay materials. Ceramic proppant is used, primarily, in the hydraulic fracturing process of natural gas and oil wells to increase their productivity of valuable natural resources. Technically engineered ceramic material is marketed for applications in the foundry metal casting and industrial mineral grinding industries as an alternative to silica and specialty sands.

Raw material feed stocks for the facilities are calcined bauxites and clay obtained from domestic and foreign sources, titanium dioxide and small additions of bentonite or corn starch. Two grades of calcined bauxites are used to make the finished product with one of them being a 75%  $Al_2O_3$  bauxite.

In either plant, the process is essentially the same and other than the difference in physical size, the differences are minor and related to the processing equipment.

Raw materials are crushed to a fine particle size in a ball mill, separated by particle size and then transported to a silo to be used as feed for pelletizers. Dust collectors are used at the milling and palletizing step to recover the fine dust and return it for processing. Ground dust is then agglomerated (palletized) into a range of pellet sizes from 10 to 70 meshes in size. These pellets are then dried in a rotary dryer burning natural gas so that the pellets may be separated by size in screening operations. Again a dust collector is used at the dryer to collect dust to be returned for palletizing. Oversize and undersize pellets and onsize pellets proceed to the rotary kiln for firing. Onsize pellets are then fired by natural gas in

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a rotary kiln. The rotary kiln sinters the pellets and then discharges those into a rotary cooler. Cooled proppants are then screened and sent to storage or to customer via truck or rail. Dust collectors are employed at the kiln and screening operations.

In this permit renewal, CARBO Ceramics proposes the following modifications at the New Iberia Facility:

- The permit will include several additional previously unpermitted conveyor sources.
- The sources NI81-13, Truck Load out Fugitives (Gravity Pour), NI85-17, Truck Load out Fugitives (Gravity Pour), and NI89-20, Fugitive Kiln Dust, have been removed from the permit.
- Emission estimates have been updated to more accurately reflect facility operations.
- The source NI85-18, Truck Loadout Fugitives (Live Pour), is being decommissioned and will be removed from the permit.
- The fugitive sources from the New Iberia facility will be consolidated into two capped emission sources: FUG001, Non-NSPS Facility Fugitive Emissions, and FUG002, NSPS Facility Fugitive Emissions.
- Sulfuric acid ( $H_2SO_4$ ) emissions will be removed from the permit to reflect the changing raw material used in the process.
- The existing dryer, NI87-01 - Rotary Gas Dryer Dust Collector Stack, has reached the end of its useful life and will be removed from service. It will be replaced with a new dryer, EQT001, NI07-01 - Dryer #1 Dust Collector Stack which is more energy efficient. This will include the installation of a fluid bed dryer, a blower for the dryer section, and a separate blower for the cooling section.
- The existing Plant #1 - Kiln #1 Baghouse and I. D. Fan will be replaced through a like kind replacement.
- The shell on Plant #1 - Kiln # 1 will be replaced because the existing shell has reached the end of its useful life.
- The existing burner system of Kiln #2 will be replaced to be in compliance with current safety codes.
- Weigh belts will be installed to give operators more control over feeding systems.
- The present classifier and cyclone system will be replaced with a more efficient classifier whose emissions are routed to EQT003, NI78-02 - Uncalcined Dust Collector Stack, for control.

After examining operations at the New Iberia Facility, LDEQ has determined that the SIC code 3295, from the *STANDARD INDUSTRIAL CLASSIFICATION MANUAL (1987)*, is the best classification of the facility for permitting purposes.

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Other SIC codes may be used by CARBO to describe other operations within the company.

**Proposed Permit**

Permit 1260-00027-V1 will be the Part 70 operating permit renewal for the New Iberia Facility. It includes provisions for a minor modification to the facility.

**Permitted Air Emissions**

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM <sub>10</sub>	3.83	152.91	+ 149.08
SO <sub>2</sub>	42.63	244.75	+ 202.12
NO <sub>x</sub>	141.76	225.42	+ 83.66
CO	21.36	34.88	13.52
VOC	0.48	0.82	0.34
H <sub>2</sub> SO <sub>4</sub>	6.89	-	- 6.89

The emission increases in this permit are primarily due to a numerical accounting revision which adjusted emission limits for currently permitted existing sources up to their New Source Performance (NSPS) or State Implementation Plan (SIP) limit. The majority of the emission limit changes are not associated with any physical change or change in the method of operation. Also, source NI78-01 is being replaced with the new dryer, source NI07-01. However, the addition of this new source does not constitute a major modification under Prevention of Significant Deterioration (PSD) because the New Iberia facility was not previously permitted as a major stationary source. The Prevention of Significant Deterioration (PSD) threshold for major stationary sources categories similar to CARBO's New Iberia plant is 250 tons/yr or more of any single regulated pollutant. CARBO's facility is not one of the 26 source categories listed in Table A of the PSD definition of "major stationary source". In addition, many of the changes are 'like-kind' replacements and are not PSD modifications.

#### **IV REGULATORY ANALYSIS**

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

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